

CLAIMS:

1. (Original) A water-soluble composition, comprising a solubilizing agent selected from the group consisting of polyoxyethanyl-sitosterol sebacate, polyoxyethanyl-cholesteryl sebacate and polyoxyethanyl- α -tocopheryl sebacate, and a compound selected from the group consisting of a compound having a high content of polyunsaturated fatty acids and a bioactive lipophilic compound selected from the group consisting of a terpene and a terpenoid.
2. (Original) A water-soluble composition according to Claim 1, comprising a solubilizing agent selected from the group consisting of polyoxyethanyl-sitosterol sebacate, polyoxyethanyl-cholesteryl sebacate and polyoxyethanyl- α -tocopheryl sebacate, and a compound having a high content of polyunsaturated fatty acids.
3. (Original) A composition according to Claim 2, wherein the compound is an oil, and wherein the solubilizing agent and oil are formulated in a weight ratio of solubilizing agent to oil of 2:1 to 3:1.
4. (Original) A composition according to Claim 3, wherein the oil is selected from the group consists of flaxseed oil and fish oil.
5. (Original) A water-soluble composition according to Claim 1, comprising a solubilizing agent selected from the group consisting of polyoxyethanyl-sitosterol sebacate, polyoxyethanyl-cholesteryl sebacate and polyoxyethanyl- α -tocopheryl sebacate, and a bioactive lipophilic compound selected from the group consisting of a terpene and a terpenoid.
6. (Original) A composition according to Claim 5, wherein the solubilizing agent and bioactive compound are formulated in a weight ratio of solubilizing agent to bioactive compound of 3:1 to 4:1.

7. (Original) A composition according to Claim 6, wherein the bioactive lipophilic compound is selected from the group consisting of squalene, geraniol, farnesol, β -carotene, astaxanthin, canthaxanthin, zeaxanthin, cryptoxanthin, lutein and lycopene.

8. (Original) A composition according to Claim 6, comprising polyoxyethanyl- α -tocopheryl sebacate and squalene, in a weight ratio of polyoxyethanyl- α -tocopheryl sebacate to squalene of 3:1.

9. (Original) A composition according to Claim 6, comprising polyoxyethanyl- α -tocopheryl sebacate and astaxanthin, in a weight ratio of polyoxyethanyl- α -tocopheryl sebacate to astaxanthin of 4:1.

10. (Withdrawn) A method for preparing a water-soluble composition according to Claim 9, comprising:

dissolving solubilizing agent and astaxanthin in a water-miscible organic solvent, in a weight ratio of solubilizing agent to astaxanthin of 4:1 to form a mixture;

diluting the mixture with water to form an aqueous solution;

concentrating the aqueous solution to remove the organic solvent and excess of water;

11. (Withdrawn) A method according to Claim 10, wherein step c) is effected by evaporation under reduced pressure.

12. (Original) A water-soluble composition, comprising a solubilizing agent selected from the group consisting of polyoxyethanyl- α -tocopheryl sebacate and

polyoxyethanyl tocotrienyl sebacate, and a compound selected from the group consisting of a tocotrienol, formulated in a ratio of solubilizing

agent to tocotrienol of about 5.5:1 w/w and coenzyme Q₁₀, formulated in a ratio of solubilizing agent to coenzyme Q₁₀ of 2.5:1 to 3.5:1 w/w .

13. (Original) A water-soluble composition according to Claim 12, comprising a solubilizing agent selected from the group consisting of polyoxyethanyl- α -tocopheryl sebacate and polyoxyethanyl tocotrienyl sebacate, and a tocotrienol, formulated in a ratio of solubilizing agent to tocotrienol of about 5.5:1 w/w.

14. (Original) A composition according to Claim 13, wherein the solubilizing agent is PTS-600.

15. (Original) A composition according to Claim 13, wherein the solubilizing agent is PtrieS-600.

16. (Currently Amended) A water-soluble composition according to Claim 12, comprising a solubilizing agent, ~~selected from the group consisting of polyoxyethanyl- α -tocopheryl sebacate and polyoxyethanyl tocotrienyl sebacate~~, and coenzyme Q₁₀, formulated in a ratio of solubilizing agent to coenzyme Q₁₀ of 2.5:1 to 3.5:1 w/w.

17. (Currently Amended) A composition according to Claim 16, wherein the solubilizing agent is PTS-400, and wherein the ratio of PTS-400 ~~PCS-400~~ to coenzyme Q₁₀ is 2.5:1 w/w.

18. (Original) A composition according to Claim 16, wherein the solubilizing agent is PtrieS-600, and wherein the ratio of PtrieS-600 to coenzyme Q₁₀ is 3.5:1 w/w .

19. (Withdrawn) A method for delivery of α -tocopherol to humans or warm-blooded animals in need thereof, comprising administering to such human or warm-blooded animal, an effective amount of a water-soluble form of vitamin E.

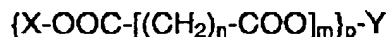
20. (Withdrawn) A method according to Claim 19, wherein the water-soluble form of vitamin E is polyoxyethanyl- α -tocopheryl sebacate.

21. (Original) A water-soluble composition, comprising polyoxyethanyl- α -tocopheryl sebacate and α -tocopheryl acetate, formulated in a ratio of 2:1 to 5.5:1 w/w.

22. (Original) A composition according to Claim 21, comprising PCS-400 and α -tocopheryl acetate, formulated in a ratio of PCS-400 to α -tocopheryl acetate of 2:1 to 4.5:1 w/w.

23. (Original) A composition according to Claim 21, comprising PCS-600 and α -tocopheryl acetate, formulated in a ratio of PCS-600 to α -tocopheryl acetate of 5.5:1 w/w.

24. (Original) A water-soluble composition comprising a bioactive lipophilic compound and a solubilizing agent of the general formula



wherein: p is 1 or 2,

m is 0 or 1, and

n is an integer in the range $0 \leq n \leq 18$

X is a residue of a hydrophobic moiety selected from the group consisting of cholesterol, 7-dehydrocholesterol, campesterol, sitosterol, ergosterol, stigmasterol, and α -, β -, γ -, and Δ -tocopherols and derivatives thereof, Y is a residue of a hydrophilic moiety, selected from the group consisting of polyalcohols, polyethers, polyanions, polycations, polyphosphoric acids, polyamines, polysaccharides, polyhydroxy compounds, polylysines and derivatives thereof, provided that:

when p and m are equal to 1 and the hydrophobic moiety is (+)- α -tocopherol, n is not equal to 2, and when the hydrophobic moiety is campesterol, sitosterol or stigmasterol, n is greater than 6.

25. (Original) A composition according to Claim 24, wherein the bioactive lipophilic compound is selected from the group consisting of ubiquinones, ubiquinols, vitamins, provitamins and mixtures thereof, provided that:

when the bioactive lipophilic compound is ubiquinone and the hydrophobic moiety is cholesterol, n is not equal to 8.

26. (Original) A composition according to Claim 24, where the hydrophilic moiety is PEG-400.

27. (Withdrawn) A method for making polyoxyethanyl tocotrienyl sebacate, comprising:

dissolving a tocotrienol in an organic solvent,
reacting the solution with a compound of the general formula Z-OC-(CH₂)_n-CO-Z, where Z is a leaving group, and
reacting with a compound of the general formula HO-Y-OR, wherein R is hydrogen or an alkyl, and n is from 0 to 18.